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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/180,432	02/12/1999	FUMIKAZU MACHINO	981361	6772

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EXAMINER

RUDDOCK, ULA CORINNA

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 03/28/2002

24

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/180,432

Applicant(s)
Machino et al.

Examiner
Ula Corinna Ruddock

Art Unit
1771



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 4, 2002
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 15-43 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 15-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other:

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DETAILED ACTION

1. The Examiner has carefully considered Applicant's amendment and accompanying remarks filed January 4, 2002. The claim objections have been overcome. The rejection in view of Takemura et al. has been overcome.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-12 and 15-43 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant has amended the claims to read on carbon fibers having "an average fiber diameter of not less than 0.5 μ m but less than 2 μ m" while citing as support Figure 11 as support. It is the Examiner's position that Figure 11 does not accurately represent the range of fiber diameter, but instead is demonstrative of peak distribution. Therefore, there is no support for this newly added limitation. The dependent claims are rejected as being dependent upon a rejected base claim.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 10 and 42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. While the limitation regarding "b" clearly has support, the meaning is unclear to the Examiner. Furthermore, if b equals 3.99, negative density would be obtained.

Clarification/correction is required.

Claim Rejections - 35 USC § 103

7. Claims 1-9, 11-41 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCullough, Jr. et al. in view of Otani et al. (US 4,504,455). McCullough, Jr. et al. teach a fire retarding and fire shielding structural panel for a vehicle, comprising a composite composed of a thermosetting resin matrix containing a multiplicity of non-flammable carbonaceous fibers (abstract). Thermosetting resin include phenolic resins and melamine resins (col 3, ln 6-9). The length of the individual fibers are in the range of 0.5 to 20 mm and the diameter of the carbon fibers of the invention range from 2 to 25 microns (col 4, ln 20-28). The bulk densities of the batting range from 0.4 to 6 lbs/ft³ (6.4 to 96 kg/m³). McCullough's carbonaceous fibers are prepared by the method as shown by U.S. patent application Ser. No. 06/856,305 (col 2, ln 45-55). In 06/856,305, McCullough teaches carbonizing the fibers at a temperature between 600°C and 700°C. It is also conventional in the art to carbonize fibers at temperatures between 600°C and 1600°C. Therefore, the fibers of McCullough, Jr. et al. have some degree of non-galvanic

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corrosiveness. A composite with the structure shown by McCullough, Jr. et al. would have the same galvanic current, tensile strength, compression recovery rate, thermal conductivity, and vertical incident acoustic absorptivity as claimed in Applicant's invention because both the material of the present invention and McCullough's invention are composed of carbon fibers being bonded by a thermosetting resin. In addition, the presently claimed properties of galvanic current, tensile strength, compression recovery rate, thermal conductivity, and vertical incident acoustic absorptivity would have been present once the McCullough, Jr. et al. product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977). McCullough, Jr. et al fail to specifically teach the use of anisotropic pitch-based carbon fibers in the insulation material and the specific method of making the insulation material.

Otani et al. (US 4,504,455) teach carbonaceous pitch and the process for the preparation thereof. The carbonizing of the infusible fiber occurs at a temperature of 100-1300° C (col 6, ln 63-68). The pitch raw material is polycyclic polycondensed hydrocarbon (abstract). It would have been obvious to one having ordinary skill in the art to have used Otani's anisotropic pitch type carbonized fibers as the fibers in McCullough, Jr's fire resistant panel motivated by the desire to obtain a panel with increased strength.

With regards to claim 12, it would have been obvious matter of design choice to have dropped the carbon fibers from a height of at least 100 cm or higher onto a plane, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ

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233. In the present invention, it would have been obvious to drop the carbon fibers from a height of at least 100 cm or higher onto a plane motivated by the desire to obtain a panel with randomly oriented fibers.

Response to Arguments

8. Applicant's arguments filed January 4, 2002, have been fully considered but they are not persuasive for the reasons set forth. Applicant argued that the carbon fibers of Takemura et al. and the carbon fibers of the present application having different physical properties. As a result, the Examiner applied the Otani et al. reference instead. Otani et al. discloses the same carbonizing temperature range and anisotropic fibers as claimed by Applicant. Therefore, the carbon fibers resulting from the combination of McCullough, Jr. et al. and Otani et al. would have the same properties as the present invention.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ula C. Ruddock whose telephone number is (703) 305-0066. The Examiner can normally be reached Monday through Thursday from 6:30 AM to 5 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor Terrel Morris can be reached at (703) 308-2414.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 308-2351.

Ula C. Ruddock *UCR*
Patent Examiner
Art Unit 1771
March 23, 2002


TERREL MORRIS
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